

WHAT IS CLAIMED:

1. A self contained, manually energizable flashlight comprising:

5 a magnet having a magnetic field;

a main housing;

a support system sleeve having a first end and a second end, for supporting a translating movement of said magnet toward said first end and toward said second end of said support system  
10 said support system for quick insertion into and dimensioned sealed carriage into said main housing;

a magnet wire positioned such that said magnet passes by said magnet wire each time said magnet makes said translating movement of said magnet toward said first end and toward said  
15 second end of said support system sleeve, energizing said magnet wire from passage of said magnetic field through said magnet wire upon said translating movement of said magnet;

a capacitor for storing an electrical charge;

a light emitting diode;

20 circuitry connected to said capacitor, said light emitting diode and to said magnet wire for converting said energization of said magnet wire into an electrical charge stored in said capacitor and for providing said electrical charge stored in said capacitor to power said light emitting diode.

2. The flashlight as recited in claim 1 wherein said support system sleeve supports said magnet wire.

3. The flashlight as recited in claim 2 wherein said magnet wire is coiled around said support system sleeve.

4. The flashlight as recited in claim 1 wherein said main housing further comprises an annularly cylindrical main housing having an opening and a cap attached to and for closing said annularly cylindrical main housing.

5. The flashlight as recited in claim 4 wherein said cap is a lens securing cap.

6. The flashlight as recited in claim 4 wherein said cap forms an air tight seal with respect to said main housing.

7. The flashlight as recited in claim 4 wherein said annularly cylindrical main chamber has a groove adjacent said opening and further comprising an "o" ring forming a seal between said groove and said cap.

8. The flashlight as recited in claim 4 wherein said annularly cylindrical main housing has an outwardly disposed thread adjacent said opening and wherein said cap is a front cap and wherein said front cap further comprises:

5 a threaded structure having a central opening about an inwardly directed cylindrical surface terminating at a circular butt end, and having an inwardly disposed thread complementary to said outwardly disposed thread; and

10 a front transparent light transmissive material adjacent said central opening and interposed between said circular butt end and said "o" ring supported by said groove adjacent said opening.

9. The flashlight as recited in claim 8 wherein said front transparent light transmissive material is a lens for directing a set of light rays from said light emitting diode.

10. The flashlight as recited in claim 1 and further comprising a pair of dampers including a first damper located inside and at said first end of said support system sleeve and a second damper located inside and at said second end of said support system sleeve, for dampening the impact resulting from a translating movement of said magnet toward said first end and toward said second end of said support system.

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11. The flashlight as recited in claim 10 wherein each damper further comprises a base member having a first side and a second side and having a first angled side wall having a first end extending from said first side of said base member, and  
5 having a second end, and having a second angled side wall having a first end extending from said first side of said base member, and having a second end, and a solid member connected at said second ends of said first and second side walls.

12. The flashlight as recited in claim 11 wherein said first and said second side walls are angled to bend toward each other in pinch flexure upon application of axial compressive force between said base member and said solid member.

13. The flashlight as recited in claim 8 and further comprising a walled support for supporting said light emitting diode and said circuitry and connected to said support system sleeve.

14. The flashlight as recited in claim 13 and further comprising a reflector housing for supporting said light emitting diode and said circuitry and connected to said walled support, such that said reflector housing, said walled support  
5 and said support system sleeve are of known length and axially

fixed and supported within said main housing and secured at least indirectly by said front cap.

15. The flashlight as recited in claim 1 and further comprising a switch interposed between said connection of said capacitor and said light emitting diode for controllably controlling the energization of said light emitting diode.

16. The flashlight as recited in claim 15 wherein said switch interposed between said connection of said capacitor and said light emitting diode is a reed switch operated by a small switching magnet on an outside of said main housing.

17. The flashlight as recited in claim 1 and further comprising:

a charging circuit having at least one of a direct current and alternating current input and an output charging coil output  
5 in physical proximity to a separate induction coil for providing charging electromotive force to said capacitor from outside said main housing.

18. The flashlight as recited in claim 1 and further comprising:

10       a charging circuit having a direct alternating current input from wall AC outlet for providing charging electromotive force to said capacitor from outside said main housing.

19. The flashlight as recited in claim 1 and further comprising:

15       a charging circuit having at least one of a direct current and alternating current input and an output charging coil output in physical proximity to said magnet wire for providing charging electromotive force to said magnet wire from outside said main housing.

20. The flashlight as recited in claim 17 wherein said charging circuit includes means for initiating the illumination of said light emitting diode upon loss of power to said charging circuit.

5       21. The flashlight as recited in claim 1 and wherein said light emitting diode is a first light emitting diode and further comprising:

      a second light emitting diode carried by said main housing;  
      a detachable battery compartment having electrical output

10 connection;

a quick charge controller circuit having a power input connected to said electrical output connection and a power output connected to said capacitor for storing an electrical charge.

15 22. The flashlight as recited in claim 1 and wherein said light emitting diode is a first light emitting diode and further comprising:

a second light emitting diode carried by said main housing;

a detachable battery compartment having electrical output

20 connection;

a trickle charge controller circuit having a power input connected to said electrical output connection and a power output connected to said capacitor for storing an electrical charge.